



GROUND GRANULATED BLAST FURNACE SLAG FIELD SECTION 1017

1017.1 SCOPE. To establish procedures for inspecting, sampling, and accepting Ground Granulated Blast Furnace Slag (GGBFS) at the source and destination and to establish a list of qualified GGBFS sources. The list of qualified sources is shown in [Field Section FS-1017, Table 1](#) of this Manual.

1017.2 APPARATUS. Keep all sample containers and equipment used in sampling clean and free of moisture or any foreign material. It is important that the sample be kept in airtight, moisture-proof containers from the time it is obtained until tests are started. The apparatus consists of:

- (a) Canvas bags with plastic liners.
- (b) Rubber bands for securely fastening the top of plastic liners.
- (c) Slotted tube, tube sampler, scoop, or any other device suitable for obtaining the sample.
- (d) Labeling materials.

1017.3 PROCEDURE.

1017.3.1 Source Acceptance and Qualification. All GGBFS for use in MoDOT projects must be furnished from a manufacturer or terminal and must comply with the requirements of Specification Sec 1017. The procedures for qualification are listed in Specification Sec 1017. Direct questions from potential suppliers concerning qualification to the Central Office. A copy of each manufacturer's quality control plan is to be kept on file in the Central Office. The latest copy of each marketing entity's quality control plan is to be kept on file in the Central Office. Send any updates to the quality control plan direct to the Chemical Laboratory Director.

1017.3.2 Sampling and Inspection. The Field Materials Chemist may coordinate with the manufacturer to obtain a semi-annual split sample of the approved grade of GGBFS along with a split sample of the reference cement used by the manufacturer. Properly label the sample and enter the sample information into SiteManager. Designate sample type as "Split Sample". The manufacturer shall furnish the manufacturer's test results to the Field Materials Chemist within two weeks after completion.

1017.3.3 Disqualified Facilities. GGBFS producers that fail to comply with the qualified status as set forth in Specification Sec 1017 will be required to designate the silo(s), bin(s), or storage facility from which they propose to furnish GGBFS for MoDOT projects. The producer must sample, test, and report satisfactory test results for each designated silo, bin, or storage facility. Prior to any shipment and following a satisfactory report furnished to the Chemical Laboratory Director, each silo, bin, or storage facility will be sampled and sealed by the Field Materials Chemist. If the results of testing by the Central Laboratory are satisfactory, the sealed silo, bin, or storage facility will be approved. This procedure will continue until adequate quality control has been re-established.



1017.3.4 Destination Inspection of Approved or Certified GGBFS.

1017.3.4.1 The ready-mix, precast, or paving plant operator shall furnish a copy of the bill of lading or delivery receipt for each shipment to MoDOT work.

1017.3.4.2 Use the following procedure to sample GGBFS on paving jobs and at ready-mix plants. Samples shall weigh a minimum of 5 lbs [2.25 kg]. Obtain samples from the storage bin or weigh hopper in one operation representing a brief period in the GGBFS stream.

1017.3.4.3 Take a sample for each 375 tons [340 Mg] or portion thereof at destination for each paving job and submit to the Central Laboratory.

1017.3.4.4 At ready-mix or precast plants, take a sample for each 375 tons [340 Mg] or portion thereof with a minimum of one sample every other month during the period that the ready-mix or precast plant is furnishing slag modified concrete for MoDOT work.

1017.3.4.5 Place the samples taken at destination in a canvas bag containing a plastic liner and ship to the Central Laboratory. Properly label the sample and enter pertinent sample information into SiteManager. Designate the sample type "Proj – Check Sample".

1017.4 REPORT

1017.4.1 Report of Central Laboratory test results on random samples of GGBFS originating from a qualified manufacturer or terminal will not be distributed unless specifically requested and conditions warrant this information for a specific purpose.

1017.4.2 The receiving district Operation Engineer shall continuously monitor shipments to the particular ready-mix or paving plants to assure the GGBFS was shipped from an approved source.

1017.4.3 Perform a review of each plant inspector's daily report data at regular intervals not to exceed one week. Verify that enough tickets are shown to account for the amount of GGBFS used and that the supplier and grade are shown on the list of qualified sources. If the report does not contain the required information, notify the district Operations Engineer.

